

California Energy Commission

July 12, 2004

Testimony to be Included in the
Climate Change Workshop

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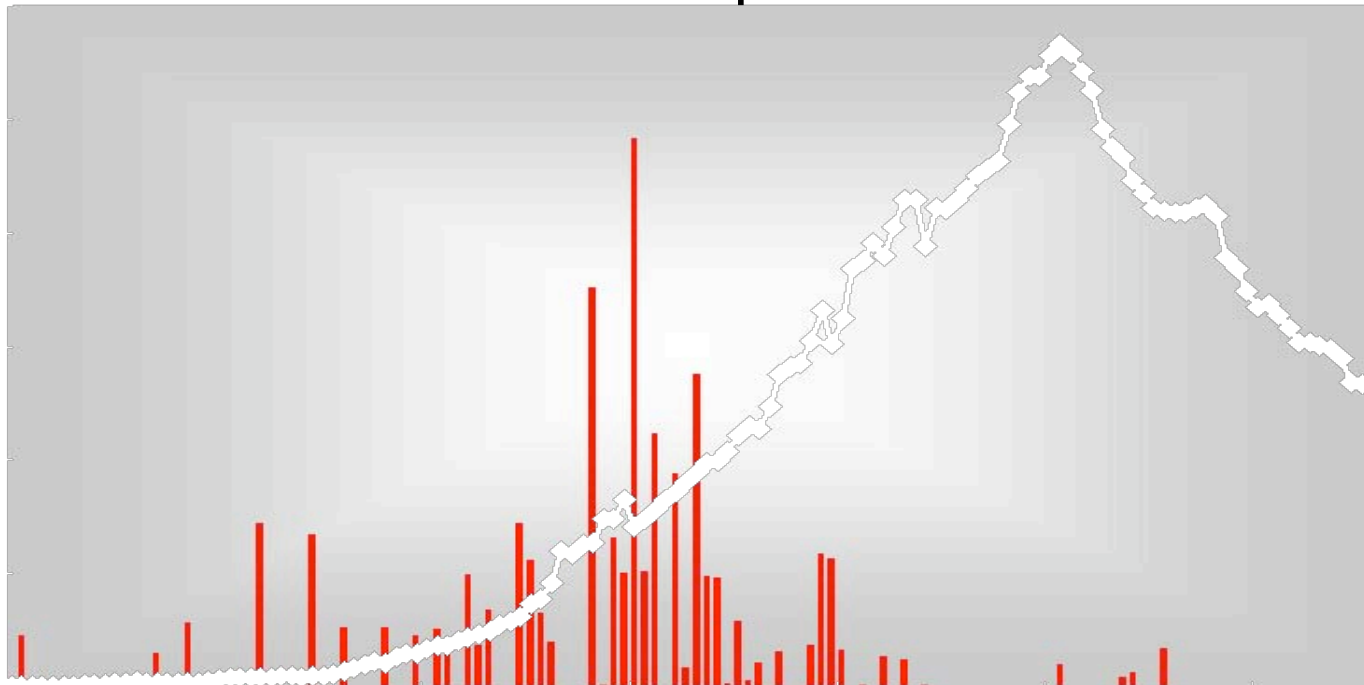
Fossil fuel dependence is a double-edged sword of pollution and climate change on one edge and depletion and scarcity on the other.

Climate change can best be addressed by acknowledging the limits of finite resources and shifting to renewable alternatives as quickly as possible

US Over a Barrel

US Oil Discoveries peaked in 1930

US Oil Extraction peaked in 1970

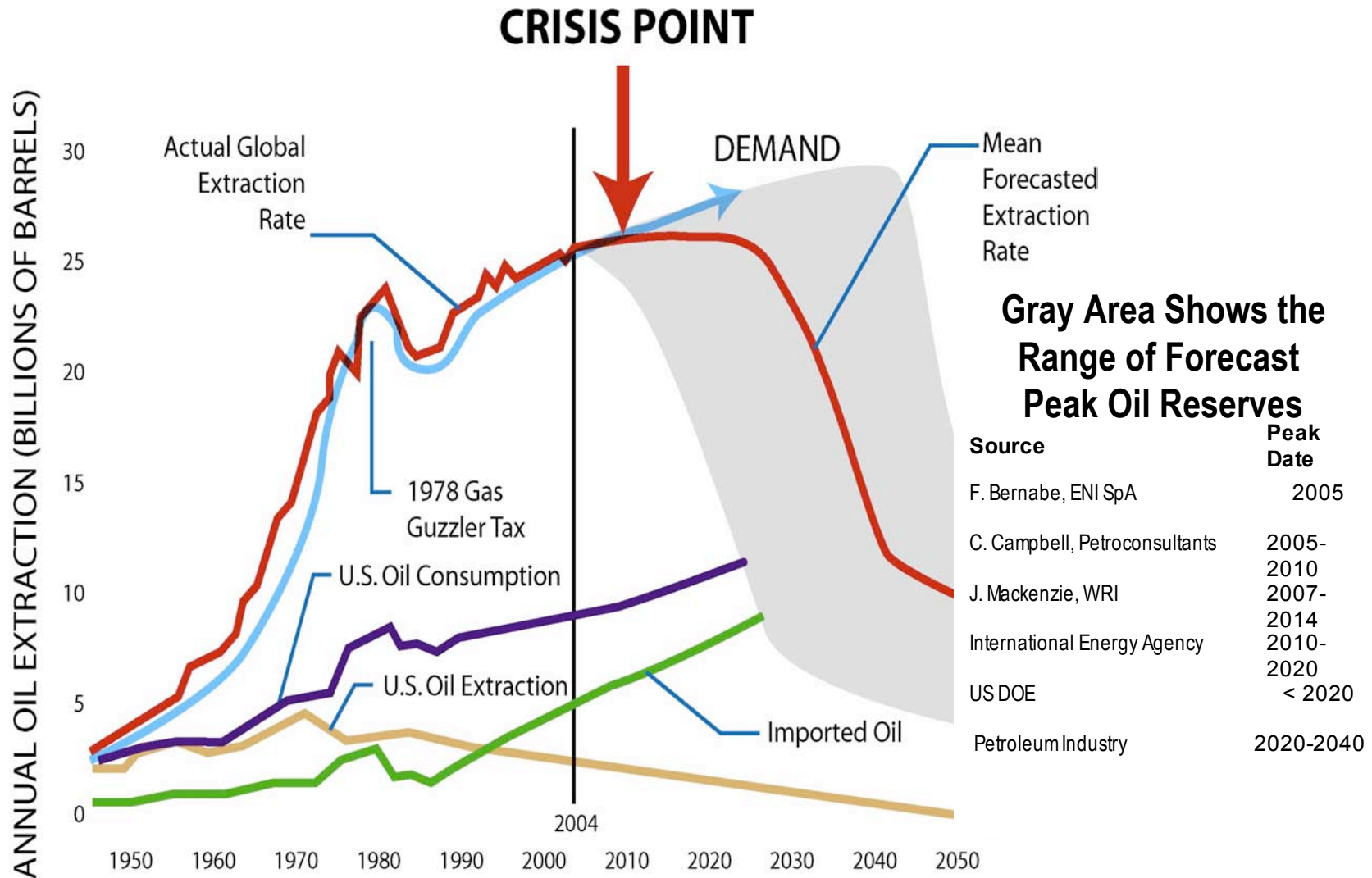


Reality Check:

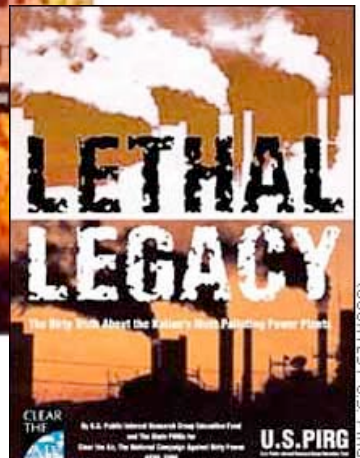
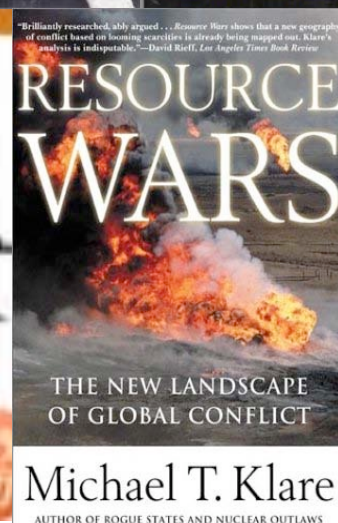
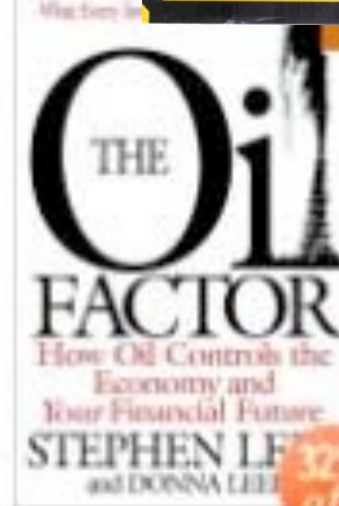
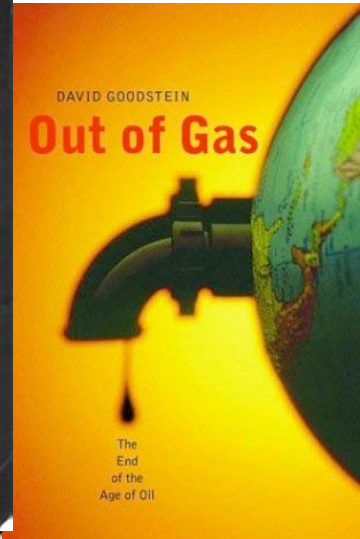
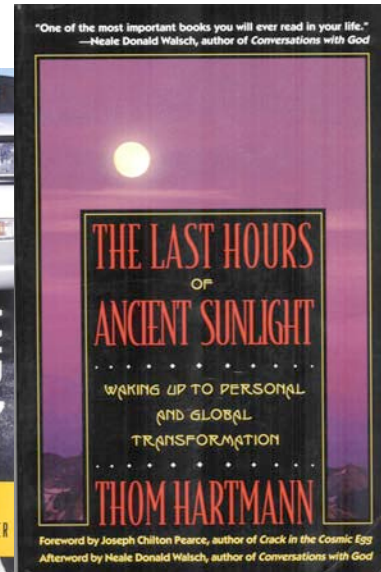
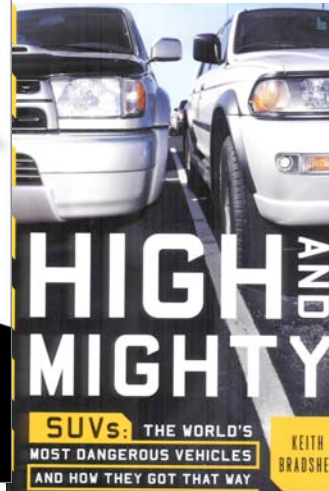
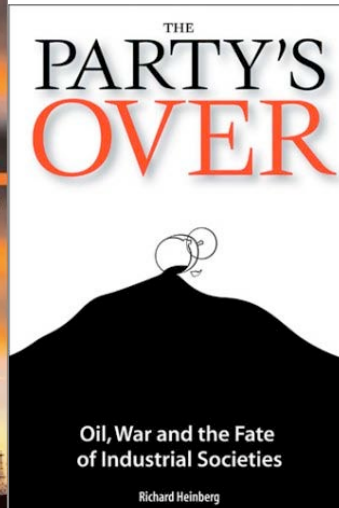
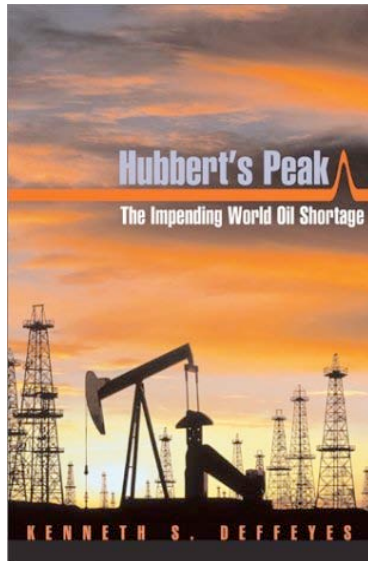


- This is not a projection it is historical data from the petroleum industry.
- Oil is not produced and it must be discovered before it can be extracted.
- US Oil “production” has been declining at an average of 2%/year since 1970.
- US Oil imports have been increasing at an average of 4%/year since 1970.

World Peak Oil



A Sense of Urgency



A Call to Action

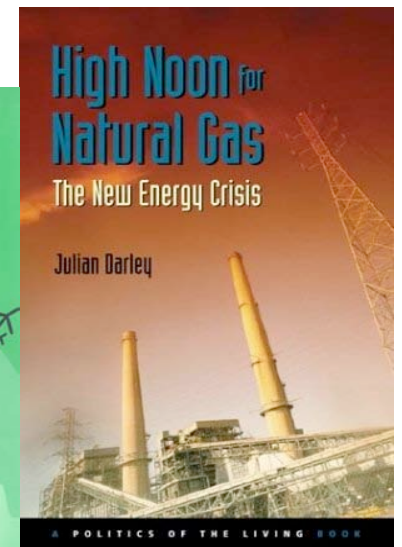
Mainstream confirmation
of the end of cheap oil



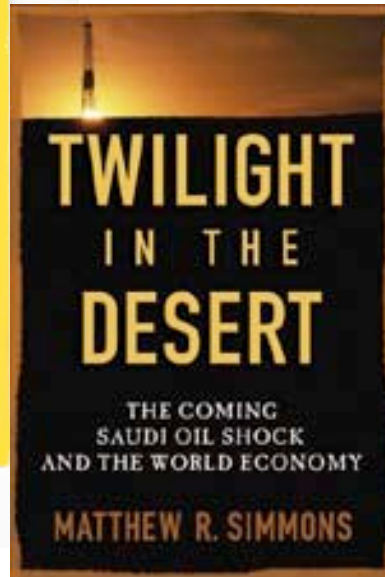
The future will be less
about mobility and more
about local independence



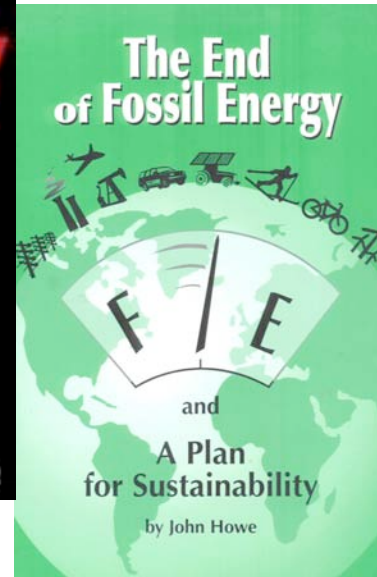
Natural gas is also
in decline in the US



Matthew Simmons, consultant
to presidents and the energy
industry, thinks world oil
extraction has already peaked



John Howe suggests that
the best solution is PV on
every roof and an EV in
every garage



Fuel Efficiency and Climate Change



Vehicle Type	\$ Gas 50 Mi. /Day	kWh 50 Mi. /Day	\$/Month 50 Mi. /Day	Tons of CO ₂ /Year Tailpipe	+Tons of Upstream CO ₂ /Year*
10 MPG Gas	12.50	200	375.00	21	27.3
20 MPG Gas	6.25	100	188.00	10.5	13.6
30 MPG Gas	4.17	67	125.00	7	9.1
40 MPG HEV	3.13	50	94.00	5.2	6.8
50 MPG HEV	2.50	40	75.00	4.2	5.5
40 MPG PHEV with 25 Mile EV Range	1.56 for 25 Miles	10 for 25 Miles	62.00	2.5	3
PHEV with 50 Mile EV Range		22	33.00	ZERO	.4
EV-1, 120 Mile Range (built & crushed by GM)		12	18.00	ZERO	.2

GM repossessed the EV1's





The oil and auto industry
crushed the zero emission
program don't let them crush
the California climate change
initiative